



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

5096284
D135-1027-251
Job Sheet 169673



Part No: D135-1027-251

Job Qty: 1 ea

Part Name: Std Height Aft Crosstube



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 12/18/17

Job Tracking No:

Due Date: 1/11/18

Created By: Diane Baker

Type: Stock

Description:

Note: TBD D135-1027-251 REV.C IPP REV:A 17.01.24 NEW ISSUE DD VERF:JLM IPP REV:B 17.12.14 AS PER DWG REV.C DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	1 pcs		1/11/18	0.00	0.00	Purchasing		<i>A118/0125</i>
120	Packaging	1 pcs		1/11/18	0.00	0.00	Packaging2		<i>A118/0125</i>
130	QC	1 pcs		1/11/18	0.00	0.00	QC15		
140	Outsource	1 pcs		1/11/18	0.00	0.00	Outsource2		
150	Packaging	1 pcs		1/11/18	0.00	0.00	Packaging2		
160	QC	1 pcs		1/11/18	0.00	0.00	QC5		
170	Packaging	1 pcs		1/11/18	0.00	0.00	Packaging3-1		
180	QC21-FG	1 Ea		1/11/18	0.00	0.00	QC21		

Part Op 110 - Issue P/O to Tube Caron: _____ Manufacture D135-1027-251 as per dwg (Bend, Remove excess Descriptions: material after bending, Drill) **Ship extrusion D6026-110** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required

120 - Ensure material release note is attached

140 - ISSUE P/O: _____ C OF C IS REQUIRED

150 - C OF C IS REQUIRED

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D135-1027-251P	Std Height Aft Crosstube	1 pcs (1 ea)	110-Purchasing	<i>5062540</i>
D6026-110	Crosstube Material	1 Ea (1 ea)	110-Purchasing	<i>F160060</i>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Purchasing	D135-1027-251P	1	9	0
	D6026-110	1	21	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

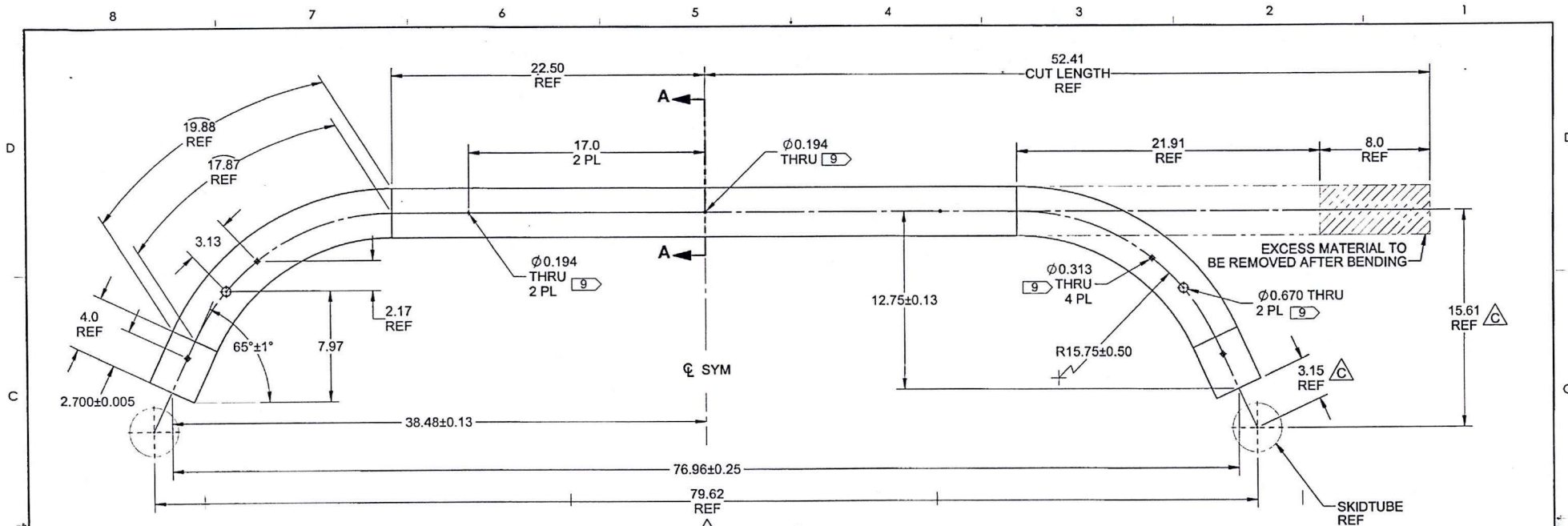


WORK ORDER NON-CONFORMANCE / UPDATE

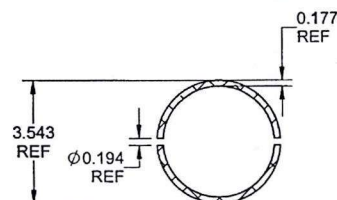
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																											
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			Lead hand / Supervisor Approval Verification																																																																												
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D135-1027-251 STD HEIGHT AFT CROSSTUBE



SECTION A-A
SCALE 2X

NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6026-105
STRAIGHT LENGTH = 104.82±0.06 (BEFORE BENDING / TRIMMING)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 16.83 lbs
- 8) MAX TWIST: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE SHALL BE NO LARGER THAN 0.25
- 9) HOLES TO BE ALIGNED WITHIN 0.005 IN RELATION TO THE HOLE ON OPPOSITE SIDE OF CROSSTUBE
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038. TO BE PERFORMED AFTER FINAL POST-BEND GRINDING. ANY ADDITIONAL GRINDING REQUIRES ANOTHER LPI INSPECTION.
- 12) MAXIMUM TUBE FLATTENING DUE TO BENDING IS 2% BASED ON OD.

C	ZONE C2, 3.15 DIM WAS 4.00, ACCORDINGLY 15.61 WAS 16.38 AND 79.62 WAS 80.34. REASON: D5424-1 SPACER DELETED FROM INSTALLATION.	ML	17.09.07
B	CORRECTED TITLE ERROR, 3.13 WAS 3.15, 7.97 WAS 7.79. REASON: DESIGN UPDATE	ML	17.05.25
A	NEW ISSUE	ML	17.01.31
REV.	DESCRIPTION	BY	DATE
DESIGN	ML		
DRAWN	ML		
CHECKED	AJS		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.07		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	REV. C
D135-1027-251	SHEET 1 OF 1
TITLE	SCALE
STD HEIGHT AFT XTUBE	NTS
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RELEASED
2017-12-06
ECN17-781

APPROVED

DART AEROSPACE LTD		Work Order:	
Description: STD HEIGHT AFT CROSSTUBE		Part Number:	D135-1027-251
Inspection Dwg: D135-1027-251 Rev: C		Page 1 of 2	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.700" TYP	+/-0.005"					
7.07" TYP	+/-0.030"					
2.17" REF	+/-0.030"					
3.13" TYP	+/-0.030"					
Ø.194" THUR 2PL	+0.006" -0.001"					
Ø.194" THUR	+0.006" -0.001"					
17.0" 2PL	+/-0.100"					
Ø.313" THUR 4PL	+0.006" -0.001"					
Ø.670" THUR 2PL	+0.006" -0.001"					

WALL THICKNESS MEASUREMENTS

LOCATION FROM CL	DWG DIM	R1	R2	R3	R4				
CL	0.177"								
21"	0.177"								
21"	0.177"								
CENTER OF BEND	0.177"								
CENTER OF BEND	0.177"								

OUTSIDE DIAMETER MEASUREMENTS

LOCATION	DWG DIM	M1	M2				
CL	3.543"						
CENTER OF BEND	3.543"						
CENTER OF BEND	3.543"						

CRUSHING

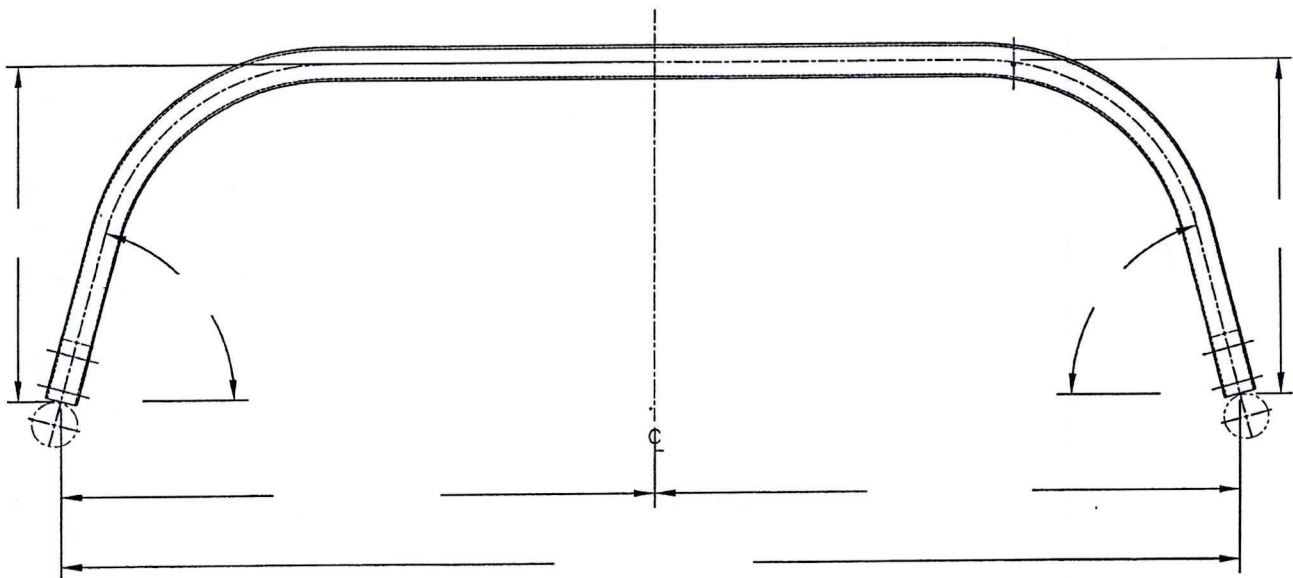
	SIDE A	SIDE B
MAX 2%		

TWIST

	SIDE A	SIDE B
MAX 0.25"		

DART AEROSPACE LTD		Work Order:	
Description: STD HEIGHT AFT CROSSTUBE		Part Number:	D135-1027-251
Inspection Dwg: D135-1027-251 Rev: C		Page 2 of 2	

Required Dimension	Min	Max
Height	12.62"	12.88"
1/2 Span	38.35"	38.61"
Angle	64°	66°
Total Span	76.70"	77.22"
Bending Passes		
Crushing	0%	2%



Measured by:		Checked by:		QC Inspector:	
Date:		Date:		Date:	

Engineering Approval: (If necessary)		Date:	
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Rev	Date	Change	Revised by	Approved
A	18/01/16	New Issue	ED	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038679

Supplier: TUB001-VC
Tube Caron Inc.
99 Louis-Joseph-Doucet Street
Lanoraie
QC
JOK 1EO Canada
Phone: 450-887-2766
Fax: 450-887-2897

PO No: PO038679
PO Date: 12/18/17
Due Date: 1/12/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		D135-1027-253P		Mid Height Aft Crosstube As Per Dwg D135-1027-253 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Line Item Note job# 169662 - Priority 1												
					Received	-	4/13/18	2 pcs	4 pcs	-2 pcs	\$300.00/pcs	\$-600.00
Sub Total:								3	5	-2		\$-600.00
2		D135-1027-253P		Mid Height Aft Crosstube As Per Dwg D135-1027-253 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169670 - Priority 1												
3		D135-1027-253P		Mid Height Aft Crosstube As Per Dwg D135-1027-253 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169671 - Priority 1												
4		D135-1027-253P		Mid Height Aft Crosstube As Per Dwg D135-1027-253 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169672 - Priority 1												

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5		D135-1027-251P		Std Height Aft Crosstube As Per Dwg D135-1027-251 Rev. C	Received	-	3/15/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169663 - Priority 2												
					Received	-	4/13/18	2 pcs	2 pcs	0 pcs	\$600.00/pcs	\$0.00
Sub Total:								3	3	0		\$0.00
6		D135-1027-251P		Std Height Aft Crosstube As Per Dwg D135-1027-251 Rev. C	Received	-	3/15/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Line Item Note job# 169675 - Priority 2												
7		D135-1027-251P		Std Height Aft Crosstube As Per Dwg D135-1027-251 Rev. C	Received	-	3/15/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note Job# 169673 - Priority 2												
8		D135-1027-251P		Std Height Aft Crosstube As Per Dwg D135-1027-251 Rev. C	Received	-	3/15/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169674 - Priority 2												
9		D135-1027-153P		Mid Height Fwd Crosstube As Per Dwg # D135-1027-153 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Line Item Note job# 169676 - Priority 1												
10		D135-1027-153P		Mid Height Fwd Crosstube As Per Dwg # D135-1027-153 Rev. B	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$600.00/pcs	\$0.00
Line Item Note job# 169664 - Priority 1												
11		D135-1027-153P		Mid Height Fwd Crosstube As Per Dwg # D135-1027-153 Rev. B	Received	-	3/15/18	1 pcs	2 pcs	-1 pcs	\$600.00/pcs	\$-600.00
Line Item Note job# 169678 - Priority 1												

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
12		D135-1027-153P		Mid Height Fwd Crosstube As Per Dwg # D135-1027-153 Rev. B wo 169677	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Line Item Note Priority 1												
					Received	-	3/15/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Sub Total:								2	2	0		\$0.00
13		D135-1027-251P		Std Height Aft Crosstube As Per Dwg D135-1027-251 Rev. C	Received	-	1/12/18	1 pcs	1 pcs	0 pcs	\$300.00/pcs	\$0.00
Grand Total:											\$-1,200.00	
Order Notes												
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents A048 counterfeit parts avoidance, detection, mitigation and disposition program A049 supplier awareness Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.												

Plex 7/25/18 12:57 PM dart.duval.patrick